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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,429	09/30/2003	JAMES N. HUMENIK	FIS920020186US1	2428

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INTERNATIONAL BUSINESS MACHINES CORPORATION
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EXAMINER

GORDON, BRIAN R

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,429	Applicant(s) HUMENIK ET AL.	
	Examiner Brian R. Gordon	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-2-05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 24-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9-30-02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-20-03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-23 in the reply filed on September 2, 2005 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the apertures in the first layer and the corresponding layer are connected. The claim does not specify that the apertures pass completely through the layers. An aperture is conventionally known as an "opening" or "hole" the term does not inherently imply the structure passes completely through a structure. The claim does not preclude the apertures from partially extending through the layers. A more accurate description which applicant employs appears to be vertical passages, which too would have to be specified as passing completely through the layers.

Furthermore it is unclear how many elements make up a "set". For the purpose of examination the examiner will assume the term means at least two elements make up a set.

It is further unclear what is a "horizontal aperture" does this mean the aperture opens up in a horizontal direction? The structure appears to be better classified as a

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channel extending in a horizontal direction as described and shown in applicant disclosure. The term aperture does not imply the structure as being a channel but yet it's the same structure as the apertures of the upper layers, which is not the case. In fact the "horizontal aperture" does not extend completely through the layer as seen in 5d. And yet in Figure 5 the element 126 appears to be a large punch-out or elongated slot or slit completely through layer 130-5. It is not really a horizontal aperture for it opens in the vertical directions. Furthermore it only becomes a channel when a bottom layer is present to close off the opening in the bottom surface of the layer.

Furthermore it is unclear which two sets of vertical apertures are connected by the horizontal apertures, for there are two sets in the first and corresponding layers.

Claim 11 recites the element is adapted for a particular use. This not a further limiting step of the claimed method.

It has been held that the recitation that an element is "adapted to" or "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

As to claim 12, the structure of the method is further limited by the inclusion of the liners, however the content of the "whereby" clause does not add any further weight for is directed to what may occur away from the device.

As to claim 13, it appears as if the claim is directed to an intended use of the liner rather than further limiting the methods. There is no clear method step recited. Applicant mentions a reagent and applied fluid but it is unclear what relationship these substances have with the claimed method.

Claims 14-17 too recite said sets of vertical apertures, it is unclear which set the claims are referencing.

A number of claims contain "whereby" clauses and state the intended use or what occurs during operation. There are no clear steps of operation present.

It has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

Claim 19 only further limits the claim by including a retention valve the adapted to phrases do not add any further structure but yet are directed to the intended use or function of elements.

Claim 20 is directed to the reagents however the reagents are not positively claimed as elements of the device.


Claims 21-23 are method claims dependent upon apparatus claims. This is improper dependency; hence the claims are not considered further limiting and are too unclear for examination.

As to claim 19 is unclear what is the structure of a capillary retention valve and it's any different from the aperture elements.

For the purpose of examination the examiner assumes the apertures are just capable of holding a liquid therein.

It is unclear how applicant can specify the device as containing "U-shaped structures". The latter U is curved. There are no curved structures in the device. Furthermore, it appears as if applicant is attempting to describe the cross sectional view

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of the connected elements. Broadly stating the device forms U-shaped structures is inaccurate. The shape is: 

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated Dugan by US 5,843,385.

See Figure 11b. The figure discloses the device as claimed. The first layer 304 has two sets of apertures (336, 370) and (418, 388). A corresponding layer 306 has corresponding apertures (346, 360) or (350, 358) and (394, 408) or (398, 406) and a bottom layer 308 assembled forming channels (horizontal apertures 354 and 402). There are two cross sectional formations seen as claimed.

6. Claims 1-11, and 16-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Anazawa et al. US 2003/10175162.

Anazawa disclose the invention as claimed see figures 7 and 8 and paragraphs 238-250.

The aperture sets (43, 44) and (45,46) both pass through layers 35 and 36 and are respectively connected by channels 33' and 34' and there are subsequent bottom layers. A cross sectional shape as claimed can be seen and if one were to take a cross sectional view along a line of (43,44) another shape would also be seen. The device is disclosed as being forming by cutting the elements in the respective layers and subsequently bonding the layers together.

It is disclosed the device may be formed from cast or injection molding as well as other methods.

The elements may be laminated or coated with a number of substances including clear or transparent plastics or polymers.

A member (J-2) was manufactured by interposing a plate having dimensions of 5 cm.times.5 cm.times.3 mm (thickness) made of polystyrene ("DICSTYRENE XC-520", manufactured by Dainippon Ink and Chemicals, Inc.) and a mold made of a silicon wafer between glass plates, fastening them with a spring clamp, heating in a hot-air oven at 120 C.

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "removable liners" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Allowable Subject Matter

8. Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the 112 second paragraph rejections.

9. The following is a statement of reasons for the indication of allowable subject matter: A method according to claim 1, in which at least one of said sets of vertical apertures contains removable liners, whereby material adhering to said removable liners may be processed away from said plate.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Berndt, Manfred et al.; Roitman, Daniel B. et al.; Dubrow, Robert S. et al.; Al-Obeidi; Fahad A. D. et al.; Singh; Sharat et al.; Gandhi; Khushroo et al.; Chien, Ring-Ling et al.; Harms; Michael R. et al.; O'Connor, Stephen D. et al.; Berndt; Manfred; Lehtinen; Kauko et al.; Sundberg; Steven A. et al.; O'Connor; Stephen D. et al.; Monti; Patricia C. et al.; Brown; James F.; Marinkovich; Vincent A.; disclose various layered devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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